

ABSTRACT

Effect of Eudragit L100 Copolymer Amount to Physical Characteristic of Routine Microparticle

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Routine is a flavonoid compound that has pharmacology effect as antihypertension and antioxidant but it was known that routine was hydrolized by acid environment and low solubility in water. Microparticle system was known to be used to protect drug compound that unstable to acid and increase drug solubility. As a acidic protector, microparticle was made from polymer that undissolved in acid and can be dissolved in base. Eudragit L100 was known as a polymer that have pH based solubility, it was dissolved at pH 6 and higher. Using eudragit L100, microparticle can providing acid protection ability to routine with swelling mechanism. This study aimed to investigate the effect of eudragit L100 copolymer amount on routine microparticle thermal properties, entrapment efficiency, and swelling index of microparticle. This research was using three formulas that have three different ratio on routine - eudragit L100. Rutin – eudragit L100 microparticle was prepared by dissolve the rutin and eudragit L100 and then, the solution was dried by spray drying. The microparticle was evaluated to determine thermal properties, entrapment efficiency, and swelling index. The physical characteristic was analyzed using DTA for thermal analysis, showed that all ratio of routine – eudragit L100 microparticle has amorphous form by single endothermal peak, the data was supported by X-ray diffractogram showed that there is no high intensity peak; the entrapment efficiency of routine was evaluated using UV-Vis spectrophotometry showed that the efficiency was increase as the increase of eudragit L100 used on formula; the swelling index of microparticle evaluated in pH 1.2 acidic solution, it was showed the swelling value was increased as the increase of eudragit L100 used on formula.

Keywords: routine, eudragit L100, microparticle, microsphere, concentration, swelling, entrapment